

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: YEO-CHANG YOON

Original Patent No. 6,141,627 issued on 31 October 2000

Serial No.: *to be assigned*

Examiner: *to be assigned*

Filed: 20 December 2001

Art Unit: *to be assigned*

For: METHOD AND APPARATUS FOR CONTROLLING POWER CONSUMPTION
IN A TILT CORRECTING COIL

PRELIMINARY AMENDMENT

Assistant Commissioner
for Patents
Washington, D.C. 20231
Box: REISSUE

Sir:

Entry of the following amendments prior to examination, consideration and calculation of the filing fee for the above-captioned new reissue application, is respectfully requested.

Folio: P55057RE
Date: 12/20/01
I.D.: REB/kf

CLEAN VERSION OF AMENDMENTS

IN THE SPECIFICATION

1. Please amend the first paragraph on column 3, from line 1 through line 6, to read as follows:

Therefore, according to the present invention, the tilt of the image of the screen is corrected in the normal manner in the on-state mode. On the other hand, in the cases of the standby mode, the suspend mode or the power-off mode, the tilt correcting coil does not consume any power, thereby satisfying the power consumption definition of the power-off mode.

2. Please amend the two consecutive paragraphs on column 3, from line 12 through line 17, to read as follows:

FIG. 1 and 1A illustrate an embodiment of a circuit to which the method for controlling the power consumption according to the present invention is applied; and

FIG. 2 is a signal flow chart showing the operation of the microcomputer of FIGS. 1 and 1A, which is used for controlling the power consumption according to the present invention.

3. Please amend the paragraph on column 3, from line 20 through 34, to read as follows:

Referring to FIGS. 1 and 1A, circuitry 60 including tilt correcting signal circuitry for controlling the power consumption comprises: a microcomputer 20 for controlling the DPMS operations of a monitor in accordance with the presence and absence of horizontal and vertical synchronizing signals input from a computer system, and for setting a tilt correcting value for the images of the screen in accordance with key signals of a keyboard or keyboard section 10 and outputting tilt correcting pulse width modulated (PWM) signals; an integrator 30 for converting the tilt correcting PWM signals output from microcomputer 20 to dc voltages; and a tilt correcting signal outputting section 40 for amplifying the output voltages of integrator 30 to output tilt correcting signals. A tilt correcting coil 50 corrects the tilt of the images of the screen in accordance with the output voltages of tilt correcting signal outputting section 40.

4. Please amend the first paragraph on column 4, from line 1 through line 7, to read as follows:

At a step S1, once the computer system is initially started or after a resetting operation, microcomputer 20 receives horizontal and vertical synchronizing or synchronization signals from the computer system in a normal on-state mode. At steps S2-S4, the microcomputer 20 determines whether horizontal and vertical synchronizing signals are being input from the computer system.

IN THE ABSTRACT

Please amend the Abstract, to read as follows:

A method for controlling the power consumption in a tilt correcting coil is disclosed. The power consumption is corrected in the tilt correcting coil for correcting the tilt of the images of the cathode ray tube. If a microcomputer judges that the mode is the on-state mode, then the microcomputer outputs a tilt correcting PWM signal in accordance with the user's inputting. Then the output tilt correcting PWM signal is converted into a dc voltage, and the level is adjusted. Then the signal is supplied to the tilt correcting coil, so that the tilt of the image on the screen would be corrected. In the cases of the standby mode, the suspend mode and/or the power-off mode, the microcomputer outputs a signal which has a function of minimizing the power consumption of the tilt correcting coil. Therefore, the tilt of the image of the screen is corrected in the normal manner in the on-state mode. On the other hand, in the cases of the standby mode, the suspend mode and/or the power-off mode, the tilt correcting coil does not consume any power, thereby satisfying the power consumption definition of the power-off mode.

IN THE CLAIMS

Please amend claims 8, 9, 11 and 12, and add claims 13 through 57, to read as follows:

1 8. (Amended) The apparatus as set forth in claim 6, said microcomputer outputting a signal
2 having a constant high logic level, when either one of said horizontal and vertical synchronizing

3 signals are not output from said computer, for preventing said tilt correcting coil from consuming
4 power.

1 9. (Amended) The apparatus as set forth in claim 6, wherein said microcomputer
2 determines said monitor is to operate in said on-state mode when both of said horizontal and vertical
3 synchronizing signals are output from said computer, and determines said monitor is to operate in
4 one of said suspend, standby and power-off modes when at least one of said horizontal and vertical
5 synchronizing signals is not output from said computer;

said microcomputer outputting said tilt correcting pulse width modulated signal, when said
monitor is determined to be operating in said on-state mode; and

said microcomputer outputting a signal having a constant high logic level, when said monitor
is determined to be operating in one of said suspend, standby and power-off modes, for preventing
said tilt correcting coil from consuming power.

11. (Amended) The apparatus as set forth in claim 6, further comprising:

said integrator comprising:

a first resistor connected between a first node and said microcomputer, and a
capacitor connected between said first node and a ground terminal;

said tilt correcting signal output circuit comprising:

a first amplifier having a negative input terminal, a positive input terminal and an
output terminal;

8 a second resistor connected between said first node and said negative input terminal
9 of said first amplifier;

10 a dividing circuit connected between a power source and said ground terminal for
11 providing a divided voltage signal to said positive input terminal of said first amplifier;

12 a feedback resistor connected between said negative input terminal and said output
13 terminal of said first amplifier;

14 a second amplifier having a negative input terminal, a positive input terminal and an
15 output terminal, said positive input terminal of said second amplifier being connected to said
16 output terminal of said first amplifier;

17 said output terminal of said second amplifier being connected to a first terminal of
18 said tilt correcting coil;

19 a second capacitor connected between said first terminal of said tilt correcting coil
20 and a second terminal of said tilt correcting coil;

21 a grounding resistor connected between said second terminal of said tilt correcting
22 coil and said ground terminal; and

23 a second feedback resistor connected between said second terminal of said tilt
24 correcting coil and said negative input terminal of said second amplifier.

1 12. (Amended) The apparatus as set forth in claim 6, further comprising:

2 a keyboard connected to said microcomputer, said microcomputer setting a tilt correcting
3 value for images on a screen of said monitor in accordance with key signals output from said

4 keyboard and outputting said tilt correcting pulse width modulated signal in accordance with said
5 tilt correcting value.

1 13. A method of controlling power consumption in a tilt correcting coil of a monitor
2 including a normal operating mode and a power saving operating mode, comprising the steps of:
3 enabling said tilt correcting coil during said normal operating mode of said monitor; and
4 disabling said tilt correcting coil during said power saving operating mode of said monitor.

14. The method of controlling power consumption in accordance with claim 13, further
comprising the step of:
determining whether a horizontal synchronization signal and a vertical synchronization signal
4 are present.

15. The method of controlling power consumption in accordance with claim 14, further
2 comprising the steps of:
3 providing a tilt correcting signal to said tilt correcting coil, said tilt correcting signal
4 including an active state and an inactive state; and
5 said step of enabling said tilt correcting coil comprising:
6 setting said tilt correcting signal in said active state when both of said horizontal
7 synchronization signal and said vertical synchronization signal are present; and
8 said step of disabling said tilt correcting coil comprising:

9 setting said tilt correcting signal in said inactive state when any of said horizontal
10 synchronization signal and said vertical synchronization signal is not present.

1 16. The method of controlling power consumption in accordance with claim 14, further
2 comprised of said tilt correcting signal comprising:
3 a tilt correcting pulse width modulated signal.

1 17. The method of controlling power consumption in accordance with claim 14, further
2 comprised of:

3 said step of enabling said tilt correcting coil comprising:
4 providing a tilt correcting signal to said tilt correcting coil when both of said horizontal
5 synchronization signal and said vertical synchronization signal are present; and

6 said step of disabling said tilt correcting coil comprising:
7 withholding said tilt correcting signal from being supplied to said tilt correcting coil when
8 any of said horizontal synchronization signal and said vertical synchronization signal is not present.

1 18. The method of controlling power consumption in accordance with claim 17, further
2 comprised of said tilt correcting signal comprising:
3 a tilt correcting pulse width modulated signal.

1 19. The method of controlling power consumption in accordance with claim 14, further

comprised of said power saving operating mode comprising at least one of:

a suspend mode, a standby mode and a power-off mode each respectively corresponding to
a power supply mode of a display power management system (DPMS) standard.

20. An apparatus for controlling power consumption in a tilt correcting coil of a monitor
including a normal operating mode and a power saving operating mode, comprising:

a controller for enabling said tilt correcting coil during said normal operating mode of said
monitor, and said controller for disabling said tilt correcting coil during said power saving operating
mode of said monitor.

21. The apparatus for controlling power consumption according to claim 20, further
comprised of:

said controller for determining whether a horizontal synchronization signal and a vertical
synchronization signal are present.

22. The apparatus for controlling power consumption according to claim 21, further
comprised of:

said controller for providing a tilt correcting signal to said tilt correcting coil, said tilt
correcting signal including an active state and an inactive state, and said controller for setting said
tilt correcting signal in said active state when both of said horizontal synchronization signal and said
vertical synchronization signal are present, and said controller for setting said tilt correcting signal

7 in said inactive state when any of said horizontal synchronization signal and said vertical
8 synchronization signal is not present.

1 23. The apparatus for controlling power consumption according to claim 22, further
2 comprised of said tilt correcting signal comprising:
3 a tilt correcting pulse width modulated signal.

1 24. The apparatus for controlling power consumption according to claim 21, further
comprised of:

said controller for providing a tilt correcting signal to said tilt correcting coil when both of
said horizontal synchronization signal and said vertical synchronization signal are present, and said
5 controller for withholding said tilt correcting signal from being supplied to said tilt correcting coil
when any of said horizontal synchronization signal and said vertical synchronization signal is not
present.

1 25. The apparatus for controlling power consumption according to claim 24, further
2 comprised of said tilt correcting signal comprising:
3 a tilt correcting pulse width modulated signal.

1 26. The apparatus for controlling power consumption according to claim 21, further
2 comprised of said power saving operating mode comprising:

3 a suspend mode, a standby mode and a power-off mode each respectively corresponding to
4 a power supply mode of a display power management system (DPMS) standard.

1 27. A computer readable storage medium including a stored set of instructions for
2 implementing a method of controlling power consumption in a tilt correcting coil of a monitor
3 including a normal operating mode and a power saving operating mode, said stored set of
4 instructions comprising one or more instructions for:

5 enabling said tilt correcting coil during said normal operating mode of said monitor; and
6 disabling tilt correcting coil during said power saving operating mode of said monitor.

1 28. The computer readable storage medium according to claim 27, further comprised of said
2 stored set of instructions further comprising one or more instructions for:

3 determining whether a horizontal synchronization signal and a vertical synchronization signal
4 are present.

1 29. The computer readable storage medium according to claim 28, further comprised of said
2 stored set of instructions further comprising one or more instructions for:

3 providing a tilt correcting signal to said tilt correcting coil, said tilt correcting signal
4 including an active state and an inactive state; and

5 said one or more instructions for enabling said tilt correcting coil comprising one or more
6 instructions for:

7 setting said tilt correcting signal in said active state when both of said horizontal
8 synchronization signal and said vertical synchronization signal are present; and

9 said one or more instructions for disabling said tilt correcting coil comprising one or more
10 instructions for:

11 setting said tilt correcting signal in said inactive state when any of said horizontal
12 synchronization signal and said vertical synchronization signal is not present.

1 30. The computer readable storage medium according to claim 29, further comprised of said
one or more instructions for providing said tilt correcting signal comprising one or more instructions
for:

providing a tilt correcting pulse width modulated signal.

31. The computer readable storage medium according to claim 28, further comprised of:
said one or more instructions for enabling said tilt correcting coil comprising one or more
instructions for:

4 providing a tilt correcting signal to said tilt correcting coil when both of said horizontal
5 synchronization signal and said vertical synchronization signal are present; and

6 said one or more instructions for disabling said tilt correcting coil comprising one or more
7 instructions for:

8 withholding said tilt correcting signal from being supplied to said tilt correcting coil when
9 any of said horizontal synchronization signal and said vertical synchronization signal is not present.

1 32. The computer readable storage medium according to claim 31, further comprised of said
2 one or more instructions for providing a tilt correcting signal comprising one or more instructions
3 for:

4 providing a tilt correcting pulse width modulated signal.

1 33. The computer readable storage medium according to claim 31, further comprised of said
2 power saving operating mode comprising at least one of:

3 a suspend mode, a standby mode and a power-off mode each respectively corresponding to
4 a power supply mode of a display power management system (DPMS) standard.

1 34. A method for controlling power consumption in a tilt correcting coil of a monitor, said
2 method comprising the steps of:

3 providing a tilt correcting signal for correcting a tilt of an image to said tilt correcting coil
4 of said monitor when operating said monitor in an on-state mode; and

5 reducing power consumption of said tilt correcting coil of said monitor by withholding said
6 tilt correcting signal from being used by said tilt correcting coil of said monitor when operating said
7 monitor in at least one of a suspend mode, a standby mode, and a power-off mode.

1 35. The method as set forth in claim 34, further comprised of said on-state mode, said
2 suspend mode, said standby mode and said power-off mode each respectively corresponding to a

power supply mode of a display power management system (DPMS).

36. The method as set forth in claim 34, further comprised of providing said tilt correcting signal to correspond to a tilt correcting pulse width modulated signal.

37. A method for controlling power consumption in a tilt correcting coil of a monitor, said method comprising the steps of:

providing a tilt correcting signal for correcting a tilt of an image to said tilt correcting coil of said monitor when operating said monitor in a mode corresponding to normal power consumption for said monitor; and

reducing power consumption of said tilt correcting coil of said monitor by withholding said tilt correcting signal from being used by said tilt correcting coil of said monitor when operating said monitor in a mode corresponding to reduced power consumption for said monitor.

38. The method as set forth in claim 37, further comprised of providing said tilt correcting signal to correspond to a tilt correcting pulse width modulated signal.

39. A method for controlling power consumption in a tilt correcting coil of a monitor, said method comprising the steps of:

providing a tilt correcting signal for correcting a tilt of an image to said tilt correcting coil of said monitor when operating said monitor in an activity state corresponding to normal power

5 consumption for said monitor; and

6 withholding said tilt correcting signal from being used by said tilt correcting coil of said
7 monitor when operating said monitor in an activity state corresponding to reduced power
8 consumption for said monitor.

1 40. The method as set forth in claim 39, further comprised of providing said tilt correcting
2 signal to correspond to a tilt correcting pulse width modulated signal.

3 41. The method as set forth in claim 39, further comprised of said activity state
4 corresponding to normal power consumption for said monitor and said activity state corresponding
5 to reduced power consumption for said monitor each respectively corresponding to a power supply
6 mode of a display power management system (DPMS).

7 42. A method for controlling power consumption in a tilt correcting coil of a monitor, said
8 method comprising the steps of:

3 providing a tilt correcting signal for correcting a tilt of an image to said tilt correcting coil
4 of said monitor when both a horizontal synchronizing signal and a vertical synchronizing signal are
5 received by said monitor; and

6 withholding said tilt correcting signal from being used by said tilt correcting coil of said
7 monitor when any of said horizontal synchronizing signal and said vertical synchronizing signal is
8 not received by said monitor to reduce power consumption of said tilt correcting coil of said monitor.

1 43. The method as set forth in claim 42, further comprised of providing said tilt correcting
2 signal to correspond to a tilt correcting pulse width modulated signal.

1 44. A method for controlling power consumption in a tilt correcting coil of a monitor, said
2 method comprising the step of:

3 using a tilt correcting signal by said tilt correcting coil of said monitor for correcting a tilt of
4 an image only when both a horizontal synchronizing signal and a vertical synchronizing signal are
5 received by said monitor.

1 45. The method as set forth in claim 44, further comprised of providing said tilt correcting
2 signal to correspond to a tilt correcting pulse width modulated signal.

1 46. A method for controlling power consumption in a tilt correcting coil of a monitor, said
2 method comprising the step of:

3 preventing a tilt correcting signal from being used by said tilt correcting coil of said monitor
4 when any of a horizontal synchronizing signal and a vertical synchronizing signal is not received by
5 said monitor, said tilt correcting signal for correcting a tilt of an image.

1 47. A method for controlling power consumption in a tilt correcting coil of a monitor,
2 comprising the step of:

3 in absence of any of a horizontal synchronizing signal and a vertical synchronizing signal
4 being received by said monitor, withholding supplying of a tilt correcting signal to said tilt correcting
5 coil of said monitor, said tilt correcting signal for correcting a tilt of an image.

1 48. A method for controlling power consumption in a tilt correcting coil of a monitor, said
2 method comprising the step of:

3 enabling correcting a tilt of an image by said tilt correcting coil of said monitor by said tilt
4 correcting coil using a tilt correcting signal only when both a horizontal synchronizing signal and
a vertical synchronizing signal are received by said monitor.

1 49. An apparatus for controlling power consumption in a tilt correcting coil of a monitor,
2 said apparatus comprising:

3 a tilt correcting coil of said monitor for correcting a tilt of an image; and
4 tilt correcting signal circuitry for providing a tilt correcting signal for correcting said tilt of
5 said image to said tilt correcting coil of said monitor and for enabling correcting said tilt of said
6 image by enabling using said tilt correcting signal only when both a horizontal synchronizing signal
7 and a vertical synchronizing signal are received by said tilt correcting signal circuitry.

1 50. The apparatus as set forth in claim 49, further comprised of said tilt correcting signal
2 corresponding to a tilt correcting pulse width modulated signal.

1 51. An apparatus for controlling power consumption in a tilt correcting coil of a monitor,
2 said apparatus comprising:
3 a tilt correcting coil of a monitor for correcting a tilt of an image; and
4 tilt correcting signal circuitry for enabling correction of said tilt of said image by said tilt
5 correcting coil of said monitor using a tilt correcting signal when both a horizontal synchronizing
6 signal and a vertical synchronizing signal are received by said tilt correcting signal circuitry, and said
7 tilt correcting signal circuitry for preventing said tilt correcting signal from being used by said tilt
8 correcting coil of said monitor when any one of said horizontal synchronizing signal and said vertical
 synchronizing signal is not received by said tilt correcting signal circuitry.

52. The apparatus as set forth in claim 51, further comprised of said tilt correcting signal
 corresponding to a tilt correcting pulse width modulated signal.

53. A computer storage medium including a set of instructions implementing a method for
 controlling power consumption in a tilt correcting coil of a monitor, said set of instructions
3 comprising one or more instructions for:

4 correcting a tilt of an image by said tilt correcting coil of said monitor using a tilt correcting
5 signal when both a horizontal synchronizing signal and a vertical synchronizing signal are received
6 by said monitor; and

7 preventing said tilt correcting signal from being used by said tilt correcting coil of said
8 monitor when any of said horizontal synchronizing signal and said vertical synchronizing signal is

9 not received by said monitor to reduce power consumption of said tilt correcting coil of said monitor.

1 54. The computer storage medium as set forth in claim 53, further comprised of said
2 computer storage medium being comprised by a microcomputer.

1 55. A computer storage medium including a set of instructions implementing a method for
2 controlling power consumption in a tilt correcting coil of a monitor, said set of instructions
3 comprising one or more instructions for:

4 enabling using a tilt correcting signal for correcting a tilt of an image by said tilt correcting
5 coil of said monitor only when both a horizontal synchronizing signal and a vertical synchronizing
6 signal are received by said monitor.

7 56. The computer storage medium as set forth in claim 55, further comprised of said set of
8 instructions comprising one of more instructions for:

9 providing said tilt correcting signal to correspond to a tilt correcting pulse width modulated
4 signal.

1 57. The computer storage medium as set forth in claim 55, further comprised of said
2 computer storage medium being comprised by a microcomputer.

REMARKS

Claims 1 through 57 are pending in this application.

Pursuant to 37 C.F.R. §1.173(c), as to the status of the claims, claims 1 through 12 of the original U.S. patent remain pending in the application, with claims 8, 9, 11 and 12 being amended and claims 13 through 57 being newly added. As to the amendment of claims 8, 9, 11 and 12, these amendments are made to place these claims in better form, particularly to correct an error in claim 11 with respect to the positive input terminal of the second amplifier being connected to an output terminal of the first amplifier, and to clarify claim 12 to recite the tilt correcting pulse width modulated signal in accordance with the tilt correcting value, as well as other clarifying corrections, such as in claims 8, 9 and 11.

Also, as to the new claims 13 through 57, these claims are presented to obtain broader coverage of the invention supported by the above-issued patent as set forth in newly presented claims 13 through 57 in this reissue application. As support for these new method and apparatus claims 13 through 57, the specification sets forth methods and apparatus for controlling power consumption of a tilt correcting coil utilizing circuitry that provides a signal or withholds a signal in relation to a power supply mode, normal or reduced power consumption, an activity state, or horizontal and vertical synchronizing signals, in view of the disclosure of the original aforesaid patent at column 1, line 35-column 4, line 56, as well as in view of Figs. 1 and 2 of the original aforesaid patent. Also, in the added claims 13 through 57, claims have been added directed to a computer storage

medium including instructions for implementing a method of controlling power consumption in a tilt correcting coil, in view of the disclosure in the original aforesaid patent with respect to Fig. 2 and the microcomputer 20, such as at column 3, line 65-column 4, line 56 of the original aforesaid patent.

Entry of the amendments to claims 8, 9, 11 and 12 and entry of new claims 13 through 57, are therefore respectfully requested.

Also, the specification and the Abstract of the disclosure have been amended; entry of these amendments is also respectfully requested.

Also, submitted concurrently herewith is a Request for Approval of Drawing Changes requesting amendment to original Fig. 2 of the original aforesaid patent, as well as adding new Fig. 1A. Amendment to Fig. 2 corrects the wording in the various steps to place Fig. 2 in better form. Also, Fig. 1A has been added in view of the disclosure of column 3, lines 20-64 of the original aforesaid patent to clarify the circuitry as to tilt correcting signal circuitry with respect to the tilt correcting coil 50, such as illustrated in new Fig. 1A, the tilt correcting signal circuitry identified in new Fig. 1A by the numeral 60. Entry of the drawing corrections to Fig. 2 and entry of new Fig. 1A are respectfully requested.

Also, submitted concurrently herewith is an Information Disclosure Statement. Entry and consideration of this Information Disclosure Statement is are respectfully requested.

In view of the foregoing Preliminary Amendment, this reissue application is believed to be in condition for examination. Should questions arise during the examination, the Examiner is requested to contact Applicant's attorney.

Respectfully submitted,



Robert E. Bushnell,
Attorney for the Applicant
Registration No. 27,774

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Folio: P55057RE
Date: 12/20/01
I.D.: REB/kf

MARKED-UP VERSION OF AMENDMENTS

IN THE SPECIFICATION

1. Please amend the first paragraph on column 3, from line 1 through line 6, as follows:

Therefore, according to the present invention, the tilt of the image of the screen is corrected in the normal manner in the on-state mode. On the other hand, in the cases of the standby mode, the suspend mode or the power-off mode, the tilt correcting coil does not consume any power, thereby satisfying the power consumption definition of the power-off mode.

2. Please amend the two consecutive paragraphs on column 3, from line 12 through line 17, as follows:

[FIG. 1 illustrates] FIG. 1 and 1A illustrate an embodiment of a circuit to which the method for controlling the power consumption according to the present invention is applied; and

FIG. 2 is a signal flow chart showing the operation of the microcomputer of [FIG. 1] FIGS. 1 and 1A, which is used for controlling the power consumption according to the present invention.

3. Please amend the paragraph on column 3, from line 20 through 34, as follows:

Referring to [FIG. 1] FIGS. 1 and 1A, [a circuit] circuitry 60 including tilt correcting signal circuitry for controlling the power consumption comprises: a microcomputer 20 for controlling the

DPMS operations of a monitor in accordance with the presence and absence of horizontal and vertical synchronizing signals input from a computer system, and for setting a tilt correcting value for the images of the screen in accordance with key signals of a keyboard or keyboard section 10 and outputting [a] tilt correcting pulse width modulated (PWM) signals; an integrator 30 for converting the tilt correcting PWM signals output from microcomputer 20 to dc voltages; and a tilt correcting signal outputting section 40 for amplifying the output voltages of integrator 30 to output tilt correcting signals[; and]. [a] A tilt correcting coil 50 [for correcting] corrects the tilt of the images of the screen in accordance with the output voltages of tilt correcting signal outputting section 40.

4. Please amend the first paragraph on column 4, from line 1 through line 7, as follows:

At a step S1, once the computer system is initially started or after a resetting operation, microcomputer 20 receives horizontal and vertical synchronizing or synchronization signals from the computer system in a normal on-state mode. At steps S2-S4, the microcomputer 20 determines whether horizontal and vertical synchronizing signals are being input from the computer system.

IN THE ABSTRACT

Please amend the Abstract, as follows:

A method for controlling the power consumption in a tilt correcting coil is disclosed. The power consumption is corrected in the tilt correcting coil for correcting the tilt of the images of the

cathode ray tube. If a microcomputer judges that the mode is the on-state mode, then the microcomputer outputs a tilt correcting PWM signal in accordance with the user's inputting. Then the output tilt correcting PWM signal is converted into a dc voltage, and the level is adjusted. Then the signal is supplied to the tilt correcting coil, so that the tilt of the image on the screen would be corrected. In the cases of the standby mode, the suspend mode and/or the power-off mode, the microcomputer outputs a signal which has a function of minimizing the power consumption of the tilt correcting coil. Therefore, the tilt of the image of the screen is corrected in the normal manner in the on-state mode. On the other hand, in the cases of the standby mode, the suspend mode and/or the power-off mode, the tilt correcting coil does not consume any power, thereby satisfying the power consumption definition of the power-off mode.

IN THE CLAIMS

Please amend claims 8, 9, 11 and 12, as follows, and add claims 13 through 57, as listed above:

1 8. (Amended) The apparatus as set forth in claim 6, said microcomputer outputting a signal
2 having a constant high logic level, when either one of said [of] horizontal and vertical synchronizing
3 signals are not output from said computer, for preventing said tilt correcting coil from consuming
4 power.

1 9. (Amended) The apparatus as set forth in claim 6, wherein said microcomputer

determines said monitor is to operate in said on-state mode when both of said [of] horizontal and vertical synchronizing signals are output from said computer, and determines said monitor is to operate in one of said suspend, standby and power-off modes when at least one of said [of] horizontal and vertical synchronizing signals is not output from said computer;

said microcomputer outputting said tilt correcting pulse width modulated signal, when said monitor is determined to be operating in said on-state mode; and

said microcomputer outputting a signal having a constant high logic level, when said monitor is determined to be operating in one of said suspend, standby and power-off modes, for preventing said tilt correcting coil from consuming power.

11. (Amended) The apparatus as set forth in claim 6, further comprising:

said integrator comprising:

a first resistor connected between a first node and said microcomputer, and a capacitor connected between said first node and a ground terminal;

said tilt correcting signal output circuit comprising:

a first amplifier having a negative input terminal, a positive input terminal and an output terminal;

a second resistor connected between said first node and said negative input terminal of said first amplifier;

a dividing circuit connected between a power source and said ground terminal for providing a divided voltage signal to said positive input terminal of said first amplifier;

12 a feedback resistor connected between said negative input terminal and said output
13 terminal of said first amplifier;

14 a second amplifier having a negative input terminal, a positive input terminal and an
15 output terminal, said [negative] positive input terminal of said second amplifier being
16 connected to said output terminal of said first amplifier;

17 said output terminal of said second amplifier being connected to a first terminal of
18 said tilt correcting coil;

19 a second capacitor connected between said first terminal of said tilt correcting coil
20 and a second terminal of said tilt correcting coil;

21 a grounding resistor connected between said second terminal of said tilt correcting
22 coil and said ground terminal; and

23 a second feedback resistor connected between said second terminal of said tilt
24 correcting coil and said negative input terminal of said second amplifier.

25 12. (Amended) The apparatus as set forth in claim 6, further comprising:

2 a keyboard connected to said microcomputer, said microcomputer setting a tilt correcting
3 value for images on a screen of said monitor in accordance with key signals output from said
4 keyboard and outputting said tilt correcting pulse width modulated [(PWM) signals] signal in
5 accordance [to] with said tilt correcting value.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: YEO-CHANG YOON

Original Patent No. 6,141,627 issued on 31 October 2000

Serial No.: *to be assigned* Examiner: *to be assigned*

Filed: 20 December 2001 Art Unit: *to be assigned*

For: METHOD AND APPARATUS FOR CONTROLLING POWER CONSUMPTION
IN A TILT CORRECTING COIL

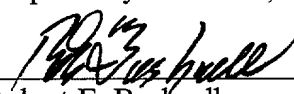
REQUEST FOR APPROVAL OF DRAWING CHANGE(S)

Assistant Commissioner
for Patents
Washington, D.C. 20231
Box: REISSUE

Sir:

Approval of the drawing changes to original Fig. 2 as shown in red, and addition of new Fig.
1A, are respectfully requested.

Respectfully submitted,


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Folio: P55057RE
Date: 20 December 2001
I.D.: REB/kf

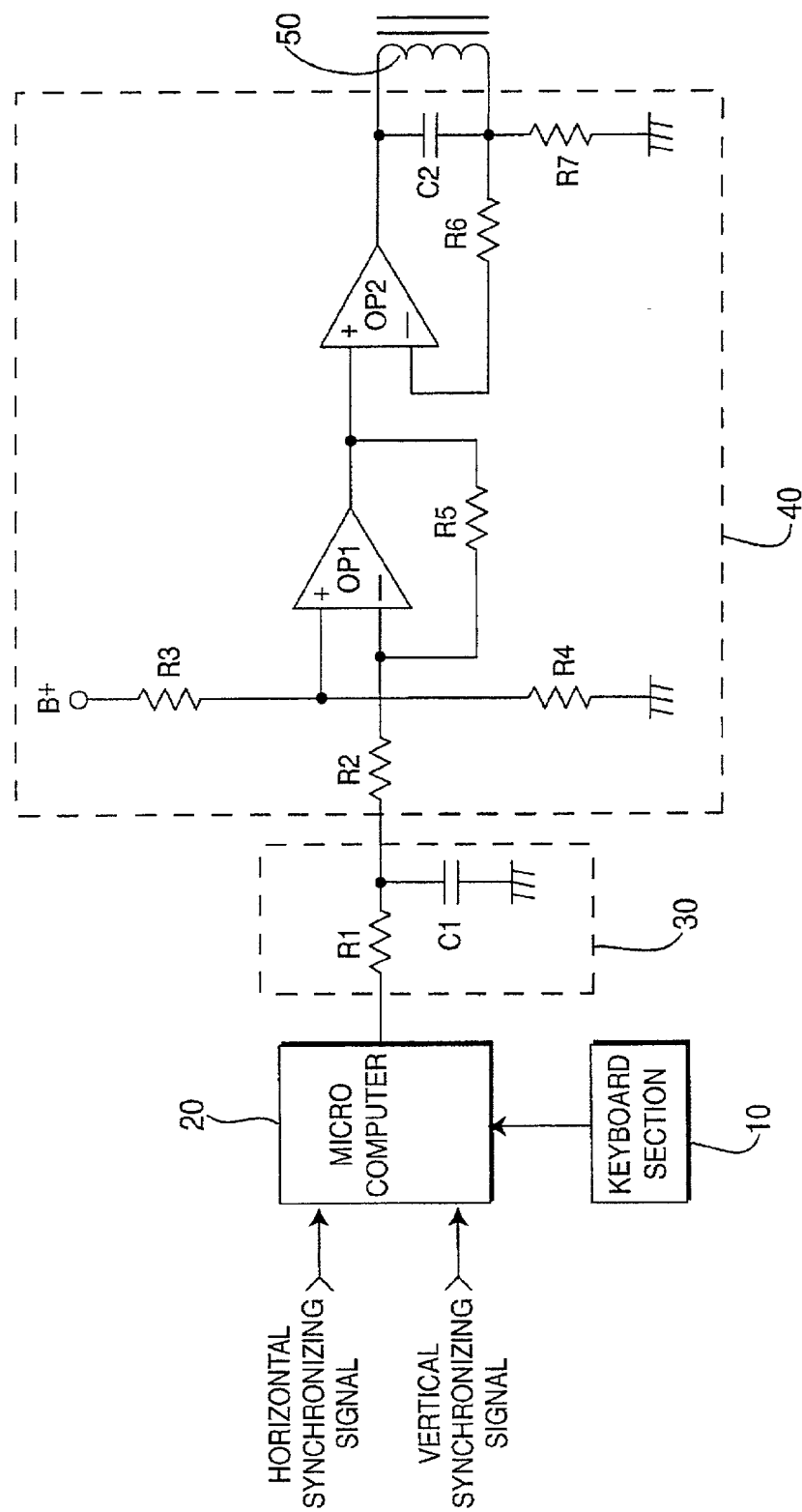


FIG. 1

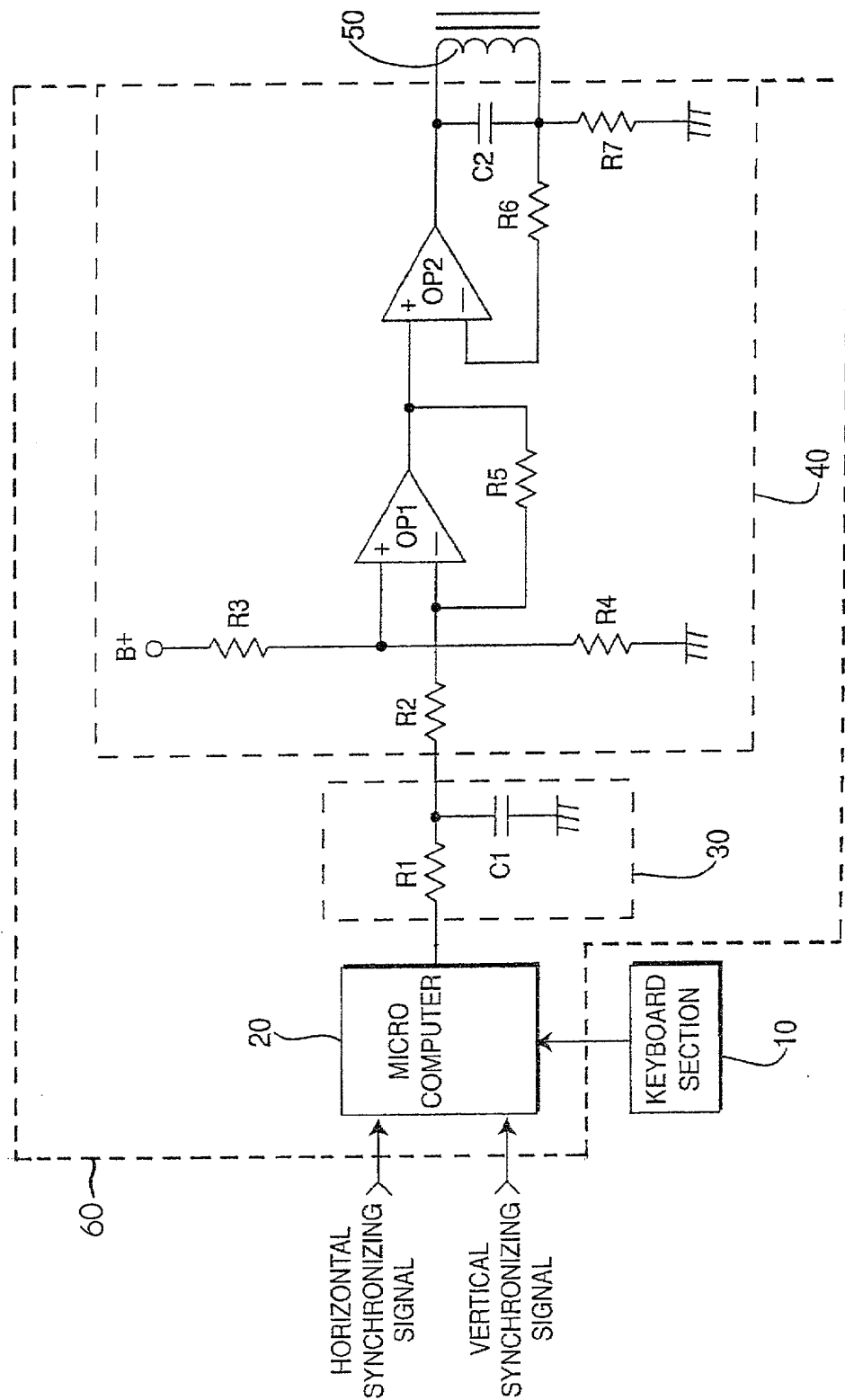


FIG. 1A (New)

FIG. 2 (Amended)

